POSSIBILITIES OF THE UNIFIED WARNING AND NOTIFICATION SYSTEM IN TERMS OF THE ADDITIONAL PROTOCOL I TO GENEVA CONVENTIONS IN INTERNATIONAL ARMED CONFLICT

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Abstract
In the summer of this year (2012) 35 years have elapsed since the adoption of the Additional Protocol I to Geneva Conventions of August 12, 1949 on Protection of Victims of International Armed Conflicts (Protocol I). The main objective of the article is to introduce the possibility of using the unified warning and notification system in terms of the Additional Protocol I to Geneva Conventions in international armed conflicts, and at the same time to reflect important legislative and other standards related to the Additional Protocol I.

Keywords

Introduction
On June 8, 1977 the Additional Protocol to Geneva Conventions of August 12, 1949 on protection of victims of international armed conflicts (Protocol I) and Additional Protocol to Geneva Conventions of August 12, 1949 on protection of victims of armed conflicts not having an international character (Protocol II) were adopted. The original of Additional protocols is available in English, Arabic, Chinese, French, Russian and Spain languages. Czech translations of Additional Protocols were published in the Notification of Federal Ministry of Foreign Affairs no. 168/1991 Coll.1. Additional Protocol I represents an important legal basis of civil defense in wartime and population protection in peacetime. The analyses of the Czech Republic Security threat show that an international armed conflict in a prospective time horizon is more or less hypothetical2, nevertheless it cannot be completely excluded. Therefore the question rises whether and how the unified system of warning and notification (JSVV) operated in the Czech Republic is applicable in case of an international armed conflict with regard to the fulfillment of one of the civil defense tasks - warning duties.
At present there is no document available which would comprehensively and in details solve the issue of the transfer of a unified system of warning and notification from peace conditions to war conditions and introduce specific ways of its application including acoustic outputs.

Warning duties in terms of the Additional Protocol I and currently used terminology

Additional Protocol I in article 61, paragraph 1 gives the definition of the term “civil defense” and the scale of its tasks. The objective of mentioned humanitarian tasks is to protect civil population against the threat, to help remove the imminent effects of hostile actions or disasters and also create necessary conditions for the survival. Letter a) of the Czech translation text of the protocol mentions the tasks of “warning duties”. This term is not further specified or qualified in the document.

In the Government Resolution 3 of the Czech Republic of November 12, 1997 no. 910, part III, the term “warning duties” is qualified as follows: “Warning duties represent a set of technical and organizational measures for warning of population against the impending or already broken out danger as a result of an extraordinary event or a crisis condition and for notification of authorities and organizations participating in the response to these situations”. In the period when this Government Resolution was topical, the term “warning duty” was used by experts relatively for a short time. The transfer of the population warning issue into the sphere of actions of the Ministry of Interior after the year 2000 brought "civilizing" also into the terminology. In everyday practice the Fire and Rescue Service of the Czech Republic stopped from using the term “warning duty”. Definitely this was influenced by the fact that the term was not used any longer either in government documents⁴ or by other central authorities.

In current terminology in the field of population protection and warning the term “warning duty” is used especially in connection with “flood warning duty”. Flood warning duty is embedded in the water act⁵ and followingly it works according to consequent legislation and documents.

The specification of this task can be made when looking into some of the original language mutations of the Additional Protocol I. Under the point (i) there is in the English⁶ version used the term “Warning” and the French⁷ language version uses the term “Service de l’alerte”. The above mentioned term “warning duty” therefore from the viewpoint of international law includes undoubtedly warning of civil population. Since the warning of population is based on transferring warning information completed according to situations by emergency information we might, in terms of currently used terminology, consider the term “warning duty” as “warning and emergency notification of population".
Unified warning and notification system in peace time

The ways how to ensure the warning of population as an inseparable part of the defense and protection arise and work in specific social, political and military connections and within specific legislation norms. Technical solutions of systems and equipment for warning of population reflect technical and financial potency for a specific period. Current situation in ensuring population warning in the Czech Republic and its prospects are influenced by historical continuity of the evolution.

The history of modern warning, which might give lessons also in case of a prospective war situation, was initiated in between wars’ period at the beginning of the 30th of the last century. The civil anti-aircraft protection (CPO) was established in the Czechoslovak Republic in 1929 as a voluntary organization. In 1935 its tasks were transferred to public administration. After the occupation the Civil Anti-aircraft Protection was in 1941 incorporated into the Empire Anti-aircraft Protection. Anti-aircraft protection Luftschuts operated in the protectorate territory until 1945.

In the period from the war end to the beginning of the year 1948 the anti-aircraft protection practically ceased to exist. However, since 1948 this situation started to change very fast. Newly established civil defense (CO) followed the lessons learned and experience from the World War II and reflected at that time current militarily-political situation. The needed attention to practical provision of population warning in the Czechoslovak Socialist Republic was paid in the frame of civil defense as a result of, at that time, a class-divided world and the existence of two military-political blocks. Regardless at that time available technological level, the warning system provided and operated by Civil defense of the CSSR was fully operable. After 1989 in connection with fundamental political changes in the entire Central and Eastern Europe, the task to transfer the system of population warning from the utilization focused on permanent threat of nuclear war to the utilization focused on endangering or arisen extraordinary events in peace time turned up. At the beginning of the 90th of the last century the applied systems of remote activation of warning were due to the technology and operation obsolete, regardless a steep growth of financial costs for their operation.

The foundations of technical infrastructure of a current unified warning and notification system were laid in 1993 by the CR Government Resolution\textsuperscript{8} of March 17, 1993 no. 126. Besides expressively higher technological level, the newly built system had also significant properties for peaceful using of which the most important was the possibility of selective activation of ending elements of warning. The newly built system was enriched by ending elements of warning taken from, at that time used, electromechanical sirens.

Another important threshold in the advancement in the area of warning of population in the Czech Republic and Unified System of Warning and Notification (JSVV) was the implementation of the CR Government Resolution\textsuperscript{9} of November 12, 1997 no. 710. The resolution solved the transfer of responsibility for the fulfillment of tasks related to civil protection in peace time, in extraordinary events...
or crisis situations and war state and also for the performance of state administration connected with civil protection issues from the Ministry of Defense to the Ministry of Interior. In connection with the Government Resolution no. 710 we can add as a matter of interest that the resolution solved the reduction of, at that time, three warning signals to the approval of one warning signal.

The last remnants of “war” terminology of USWN (JSVV) disappeared on October 31, 2001, let us say on November 1, 2001 when the warble tone at that time called "Disaster - Air Alert (under the national military readiness)” and the permanent tone at that time called “General Warning” – End of Air Alert (under the national military readiness)” renamed to current terms. We can compare the use of applied terminology by e.g. using the documents “Requirements for ending elements connected to the warning system of civil protection” (ref. no.: 5227/2000-2080) or “Requirements for ending elements connected to the unified system of warning and notification” (ref. no. PO-1084/KIS-2001) with the Public Notice of the Ministry of Interior no. 380/2002 Coll.10

The history of the advancements both in technology, and terminology influences the current conditions of the unified system of warning and notification. The present-day peaceful structure of USWN (JSVV) and its peaceful terminology can pose a question whether and how the unified system of warning and notification (in peace time working as one of basic ways of population warning) would be applicable under the state of an international armed conflict.

The possibilities of the application of the unified system of warning and notification in case of an international armed conflict

The possibilities of the application of the unified system of warning and notification in case of an international armed conflict can be analyzed from the aspect of prospective threats for civil population and from them resulting protective measures. Obviously the most serious threat for the population would be an enemy air attack, the leak of dangerous substances into the environment as a result of the enemy activities, extraordinary floods also as a result of an enemy attack. Simultaneously with the consequences of fighting activities of an adversary also peaceful extraordinary events would persist (natural and extraordinary floods, the leak of dangerous substances into the environment as a result of technological or anthropogenic causes).

According to available analyses of military threats to the security of the Czech Republic we can say that an international armed conflict with the highest probability will not break out all of a sudden and without precedent warning symptoms. In case of the escalation of the international tension the relevant authorities will have probably relatively enough time to adapt the unified system of warning and notification for prospective application in conditions of a war conflict. Even so, in peace time the USWN (JSVV) and its ending elements of warning dispose of the sufficient potential for the provision of timely and reliable warning and emergency notification. This can be proved on acoustic outputs from USWN.
The warble tone of sirens already from the beginning of their introduction before the World War II means throughout the world the signal of jeopardy. The sound of a warble tone under war conflicts has always warned the population against an air attack. Therefore it is nothing more natural than in case of a war threat return to its original significance. On ending elements of a warning system it is possible to activate the warning signal “General Warning (technically it is a warble tone lasting 140 seconds), on electronic ending elements of warning (electronic sirens and local information systems) they are completed with verbal information “General Warning”. In case of a threat to population from the flood or the leak of dangerous substances into the environment it is possible to activate a warning signal “General Warning”, on electronic ending elements of warning completed with verbal information “Danger from Flood Wave”, “Chemical Breakdown”, or “Radiation Breakdown” according to the character of a threat.

At the same time the current “Test Tone” determined for the verification of the operability of a unified system of warning and notification through an acoustic test (technically it is a permanent tone lasting 140 seconds) has its history because in war conflicts it announces the end of an air attack. For the retraction of a threat it is possible to use also verbal information "End of Alert" reproduced from electronic ending elements of warning.

It is considerably known very little that in all ending elements of warning of a unified system of warning and notification there is a reserve signal (technically it is an interrupted tone lasting 140 seconds). At present this unused signal was before November 1, 2001 marked and used as a warning signal "Danger from Flood Wave". Technically in a very simple way it is possible to activate again this signal and consequently use it with the meaning according to the decision of relevant authorities.

All electronic ending elements of warning introduced into operation since 2008 can save into the memory above the scope of eleven standard pieces of verbal information five more ones. One of them might be also verbal information on the danger from an air attack. At present the memory space for them are marked as the reserve for FRS regions. The older electronic ending elements of warning have been already either updated to current standards and as long as it has not been carried out so far, basically from financial reasons, in case of an imminent need they can be modernized from central sources.

The significance of individual processes (tones) and verbal information can be adjusted and published very fast, e.g. by updated Public Notice11 of the Ministry of Interior no. 380/2002 Coll. In case of jeopardy adequate effort will be surely made in order to get the population acquainted with the new norm through all available means. In this respect it will be possible to clarify the population recommended or ordered protective measures, or also exercise them.

Besides the above mentioned signals (tones) and verbal information it is possible for warning and emergency notification of population, for the coordination of protective measures, for the communication with citizens in case of the damage to critical infrastructure on which the population is imminently dependent and in a number of other cases and situations to use with electronic
ending elements of warning also a direct speech inputs through the microphone, reproduction of information from external sources of modulation including integrated VKV-FM of radio appliances. Further it is possible to use the autonomous systems of operating and modulation (e.g. mobile phones and radio stations, if they are functional, of course.

The reliability of warning and emergency information broadcasting in an international armed conflict

Current unified system of warning and notification has been developed for operating in peace time. Ordinary damage to the functionality of the system is substantially eliminated by security measures, principles and functions. JSVV (USWN) is not ready for a massive targeted attack of an adversary (e.g. the attack on telecommunication networks of the system, mechanical damage or destruction to the parts of technical infrastructure of the system and its ending elements of warning etc.). It is necessary to anticipate that an adversary will respect the provision of the Additional Protocol I and will not assault the JSVV (USWN) and its parts insidiously and purposefully.

During the preparation for an armed conflict it is possible to eliminate and compensate a number of potential problems by generation of a comprehensive system of warning. There would be defined the major, reserve and standby ways of warning and emergency information broadcasting which will be ensured organizationally, technically and operationally. The combination of JSVV (USWN) with other optional systems, equipment and means of warning and emergency broadcasting (radio and television, mobile means of warning, local radios and similar information systems,...), and also e.g. with personal announcements of needed information will create sufficiently resistant system of civil population warning.

Ending elements of warning of JSVV are at present distantly activated from notification centers at four levels from the nation-wide level to a local one. In case of need, additional notification centers can be set in. For example notification centers can be established in the centers of anti-aircraft defense and in similar bodies.

Besides remote activation, the ending elements of warning can be operated locally or through autonomous systems of operation (e.g. mobile phones or radio stations if functional). Also this way the reliability of the necessary information transfer is enhanced.

Within the frame of the analysis of critical infrastructure sections safety we can consider as an international armed conflict various serious disturbance of electro-distribution structures and as a result of this also various long blackouts. The power supply of technical infrastructure of JSVV and its electronic ending elements of warning is thanks to the solution of power supply through reserve and standby sources during the determined period independent on the electro-distribution network. In this connection it is necessary to warn that the power
supply and therefore also the operability of electromechanical sirens is imminently dependent on the condition of the electro-distribution network. With regard to the number of electromechanical sirens classified into the unified system of warning and notification (in the period of this article elaboration in February 2012 it was more than 5 thousand pieces, it is approx. 76 % of the total number of ending elements of warning) it is not possible to solve easily the issue of their power-supply. There is the question: to what degree is the massive modernization of many thousands sirens in conditions of growing international tension feasible? As one of the solutions could be with selected electro-mechanical sirens which in secured locality do not have other back-up, the installation of an automatically operated electro-central. However, a system solution is obviously the modernization of the infrastructure of ending warning already in peace time. To cover the modernization is besides realistic financial situation of public sector also a matter of political will. Unfortunately the Resolution^{12} of the CR Government of February 25, 2008 no. 165 has not been charged so far. According to this Resolution at least part of costs could be transferred from the public sector to other entities.

Under relatively extreme conditions which might occur in case of an international armed conflict, it is necessary to anticipate an increased number of failures. Replacements or repairs of the equipment is dependent not only on the construction and the quality of the equipment but also on the sufficient reserve of spare parts and sufficient capacity of production, service and maintenance companies. In this connection we can discuss how it would be possible to ensure some components which do not come from prospective allied countries.

For the timely diagnosis of prospective functional problems, the verification of the operability of the warning and notification system will be of considerable importance. This will be possible to carry out in the same way as in peace time, it means by “Test tone” (technically it is a permanent tone lasting 140 seconds), as long as it is not designed for other applications. On electronic ending elements of warning it is possible to reproduce verbal information “Test of sirens is about to start” and “Test of sirens”. For technical purposes (repairs, service, preventive check-ups) it is possible to check the operability of ending elements of warning without the occurrence of acoustic effects, interchangeable for some signals through “technical tests” of electro-mechanical sirens and “tests” of electronic ending elements of warning.

The danger from the fallout of the acoustic coverage in potential failures of ending elements of warning and this way also decreased audibility of signals and other information can be compensated by the restoration of the function of auditory guards, whose main task would be to pass over the received information to determined target groups of receivers. The members of auditory guards could be also the members of Volunteer Fire Units. Already in peace time the volunteer fire units participate^{13} in warning of population. The CR Government Resolution^{14} of February 25, 2008 no. 165 considers the reinforcement of Fire and Rescue Service of the CR especially with members from Volunteer Fire Units.

The timely and just transfer of warning and emergency information will rely on besides the technical condition of technical infrastructure of USWN and its
ending elements of warning also on professional preparedness, vigilance, and alertness of all persons participating in warning and emergency notification of population.

**The notification in the unified system of warning and notification**

Even though this article is devoted first of all to the issue of warning and emergency notification of population in an international armed conflict, it is possible to use the term “warning duty”, mentioned in the Additional Protocol I also in the process of notification. Providing that the process of notification did not correspond with the term "warning duty", we can use the task under letter o) (in the Czech translation 15) “additional activity indispensable for the fulfillment of mentioned tasks including planning and organizing, however, not restricted to this activity only”. Within this text in the area of notification, the possibility to notify through ending elements of the unified system of warning and notification – personal receivers (pagers) will be reflected. Following there will be the possibility to ensure the call up of fire protection units through ending elements of the unified system of warning and notification.

Personal receivers (pagers) are ending elements of the unified system of warning and notification. Pagers can serve especially as a main or standby means for notification of determined persons on real endangering or already arisen extraordinary events, crisis situations and other problems threatening the security of population, civil order etc. They can also be used for the call-up of crisis staffs’ members, members of fire protection units and a number of similar teams. In specific cases the pagers can be, as a result of the decision of relevant authorities, used also for warning and emergency notification of persons who cannot be warned and notified in a standard way (e.g. persons with hearing disability).

The power supply of technical infrastructure of a unified system of warning and notification is thanks to the solution of power supplying through reserved and standby sources for a determined time independent on electro-distribution network which obviously will not be possible to ensure with the equipment of mobile telephone operators. In case of a long term fallout of the electro-distribution network there could arise problems with the charging of mobile phones accumulators whereas power supply cells for pagers will be even in this time relatively available.

The condition and functionality of technical infrastructure of the unified system of warning and notification will be continuously under the supervision and the sorting out of prospective problems will be up to relevant authorities. When following the principles for broadcasting of messages to pagers from entering terminals there is no danger from overloading a radio network of a system. It is possible to anticipate that especially during a real war threat, extraordinary event or crisis situation the loading of transfer networks of mobile operators will be significantly growing, as long as even the condition of inadaptability of mobile phone connection does not occur.
In case of an international armed conflict there is a real possibility of the outbreak of fires invoked due to various reasons. Therefore the firefighting inseparably belongs into comprehensive tasks of civil defense. Well-timed call up of fire protection units becomes considerably important then. Besides firefighting, units are supposed to perform a number of other tasks related to civil protection tasks. To call up the fire protection units the signal “Fire alert” is used. With electro-mechanical sirens it is an interrupted tone lasting 60 seconds, with electronic ending elements of warning it is an intermittent tone lasting 60 seconds), with electronic ending elements of warning the signal is completed by verbal information "Fire alert". Signal “Fire alert” is not called back. As it was mentioned in the part devoted to pagers, also in case of calling up of fire protection units, the pagers can be used together with other equipment and systems.

**Legislative protection of the unified system of warning and notification**

Protection is guaranteed by Additional Protocol I to civil organizations, forces and means determined for the fulfillment of civil defense tasks. Additional Protocol I, Article 61 defines the terms: “civil defense organization”, “civil defense organizations staff” and “civil defense organizations equipment”.

The transfer of tasks and responsibilities of civil defense from Civil Protection supervised by the Ministry of Defense department to the Ministry of Interior caused also that warning duties became “more civil”. The unified system of warning and notification in terms of Act no. 239/2000 Coll. is operated by the Ministry of Interior and its tasks are fulfilled by the General Directorate of Fire and Rescue Service of the Czech Republic. Fire and Rescue Service of the CR is in the Act mentioned as one of basic sections of the integrated rescue system. During an international armed conflict it is one of organizations of civil defense and therefore it is protected, including persons who fulfill its tasks (i.e. personnel of civil defense organizations) and the equipment (i.e. materials of civil defense organizations). This protection is then applied also to the technology of the unified system of warning and notification.

The protection, in terms of article 62, item 2, of Additional Protocol I, applies to civilians who even if they are not members of civil organizations of civil defense fulfill the tasks of civil defense due to the call appeal from relevant authorities and under their supervision. This enactment should encompass all persons who cannot be imminently categorized as “personnel of civil defense organizations”. Obviously this enactment can be applied to persons participating together with Fire and Rescue Service in the operation and administration of the unified system of warning and notification, i.e. to persons from municipalities and other entities possessing and operating ending elements of warning and workers from supplying and service companies during their operation with ending elements of warning.

A significant element of protection of civil defense organizations, their personnel, entities and material is their identification if they are exclusively
determined for civil defense tasks. International recognition symbol of civil defense is the blue isosceles triangle in an orange field. The part of technical infrastructure of the unified system of warning and notification and its ending elements of warning should be, in terms of Article 66 properly marked and so explicitly identified as material used for civil defense.

Summary and conclusion

In the summer of this year (2012) 35 years have elapsed since the adoption of the Additional Protocol I to Geneva Conventions of August 12, 1949 on protection of victims of international armed conflicts (Protocol I). Available security analyses indicate an international armed conflict more or less as a hypothetical one; nevertheless, at present and near future the security threats will be much more probable and actual. Therefore the question rises whether and how the unified system of warning and notification (JSV V) operated in the Czech Republic is applicable in case of an international armed conflict with regard to the fulfillment of one of the civil defense tasks - warning duties.

The unified system of warning and notification is already at present, in peace time operable for the performance of warning duties. Within the preparations for an international armed conflict we can during the period of the growing tension implement organizational, technical and operation measures in order to strengthen and optimize the system. In combination with other optional equipment (radio and television, mobile means of warning, municipal and entity radios and similar information systems) we can generate sufficiently resistant system of warning of civil population.

The timely and just transfer of warning and emergency information will rely on besides the technical condition of technical infrastructure of USWN and its ending elements of warning also on professional preparedness, vigilance, and alertness of all persons participating in warning and emergency informing of population.

Last but not least it is necessary to mention that the effectiveness of warning and emergency notification will rely on active participation of endangered population. If it is quite a big problem in peace time, in case of an armed conflict the situation will be hopefully much more satisfactory.

NOTES:


White Book on defense approved by the Government Resolution no. 369 of May 18, 2011.

Government Resolution of the Czech Republic of November 12, 1997 no. 710 on the conception of civil defense tasks assurance defined by Additional Protocol I to Geneva Conventions on protection of victims of international armed conflicts of August 12, 1949.


Act no. 254/2001 Coll., on Waters and the amendments, (Water Act), head IX. Protection against floods.

ADDITIONAL PROTOCOL TO THE GENEVA CONVENTIONS OF AUGUST 12, 1949 RELATED TO THE PROTECTION OF VICTIMS OF INTERNATIONAL ARMED CONFLICTS (PROTOCOL I).

PROTOCOLE ADDITIONNEL AUX CONVENTIONS DE GENÈVE DU 12 AOÛT 1949 RELATIF À LA PROTECTION DES VICTIMES DES CONFLITS ARMÉS INTERNATIONAUX (PROTOCOLE I).

Government Resolution of the Czech Republic of March 17, 1993 no. 126 on the Civil Protection Condition, its structure and material provisioning.

Government Resolution of the Czech Republic of November 12, 1997 no. 710 on the Conception of civil defense tasks assurance defined by Additional Protocol I to Geneva Conventions on protection of victims of international armed conflicts of August 12, 1949.


Act no. 238/200 Coll. of June 28, 2000 on Fire and Rescue Service of the Czech Republic and amendments, § 3.
Literature


[17] Technical requirements for ending elements of warning connected to the unified system of warning.